CLAIMS

What is claimed is:

article made from poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group, such that said graft polymerized poly(ethylene oxide) at least partially crosslinks and is capable of absorbing a quantity of liquid.

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- 2. The method of Claim 1, wherein said article is a
- 3. The method of Claim 1, wherein said article is a

fiber.

film.

4. The method of Claim 1, wherein said article is a foam.

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5. A fiber made from melt processed poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group.

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6. A film made from melt processed poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group.

7. A foam made from melt processed poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group.

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8. A pellet made from melt processed poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group.

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9. A method comprising:

combining poly ethylene oxide), an initiator and an organic monomer capable of graft polymerization with said poly(ethylene oxide), said organic monomer including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group;

subjecting the combination of poly(ethylene oxide), the initiator and organic monomer to conditions sufficient to graft the organic monomer onto the poly(ethylene oxide),

melt processing the grafted polymer into a functional form;

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subjecting the functional form to humid conditions sufficient to induce at least partial crosslinking of the polymer.

from melt processed poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group laminated to a second layer.

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11. The laminated structure of Claim 10, wherein said first layer is selected from the group of a fiber, a film and a foam.

The laminated structure of Claim 10, wherein said second layer made from melt processed poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group.

- The laminated structure of Claim 12, wherein said 13. second layer is selected from the group of a fiber, a film and a foam.
- The laminated structure of Claim 10, wherein said 14. second layer comprises a nonwoven layer.
 - The laminated structure of Claim 12, wherein said 15. second layer comprises a nonwoven layer.
 - The laminated structure of Claim 10, wherein said 16. second layer comprises wood pulp.
 - The laminated structure of Claim 10 further 17. comprising a third layer laminated to said first layer.
 - The laminated structure of Claim 10, wherein said 18. first layer is a film and said second and third layers comprise sheets of nonwoven material.
 - The laminated structure of Claim 18, wherein said 19. nonwoven material is tissue.
- melt processed adhesive comprising a 20. An poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group.

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21. A method of adhering a first material to a second material comprising interposing between said first and second materials and in contact therewith the adhesive of Claim 20 at an elevated temperature and permitting said melt processed material to cool to ambient temperature.

article made from poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group, such that at least a portion of said graft polymerized poly(ethylene oxide) crosslinks and absorbs at least a portion of a liquid, whereby at least a portion of said graft polymerized poly(ethylene oxide) forms a non-water soluble gel.

23. The method of Claim 22, wherein said gel fraction comprises up to about 98% by weight.

24. The method of Claim 22, wherein said gel fraction comprises about 2% by weight.

25. The method of Claim 22. wherein said gel fraction comprises about 2%-98% by weight.

26. The method of Claim 22, wherein said gel fraction comprises about 2%-60% by weight.

27. The method of Claim 22 wherein said gel fraction comprises about 50%-60% by weight.

28. The method of Claim 22, wherein said gel fraction comprises about 50%-98% by weight.

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- 29. A composition of matter comprising poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group, the modified poly(ethylene oxide) being at least partially crosslinked.
- 30. A composition of matter comprising poly(ethylene oxide) having graft polymerized thereto an organic moiety including a trialkoxy silane functional group or a moiety that reacts with water to form a silanol group, the modified poly(ethylene oxide) having a gel fraction of up to about 98% by weight.
 - 31. The composition of Claim 30, wherein said gel fraction comprise about 2% by weight.
 - 32. The composition of Claim 30, wherein said gel fraction comprises about 2%-98% by weight.
 - 33. The composition of Claim 30, wherein said gel fraction comprises about 2%-60% by weight.
 - 34. The composition of Glaim 30, wherein said gel fraction comprises about 50%-60% by weight.
 - 35. The composition of Claim 30, wherein said gel fraction comprises about 50%-98% by weight.

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